

PATENT COOPERATION TREATY

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NOTIFICATION OF THE RECORDING
OF A CHANGE(PCT Rule 92bis.1 and
Administrative Instructions, Section 422)

From the INTERNATIONAL BUREAU

To:

CHERRY, James
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Date of mailing (day/month/year) 22 June 2001 (22.06.01)	IMPORTANT NOTIFICATION
Applicant's or agent's file reference 40141767	
International application No. PCT/AU99/01043	International filing date (day/month/year) 23 November 1999 (23.11.99)

1. The following indications appeared on record concerning:		
<input checked="" type="checkbox"/> the applicant	<input checked="" type="checkbox"/> the inventor	<input type="checkbox"/> the agent <input type="checkbox"/> the common representative
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2. The International Bureau hereby notifies the applicant that the following change has been recorded concerning:		
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3. Further observations, if necessary: Please note that the status of WEERASINGHE, Jayanthi has been changed from applicant only for all designated States except US to applicant/inventor for all designated States.		
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PCT COOPERATION TREATY

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NOTIFICATION OF ELECTION

(PCT Rule 61.2)

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Date of mailing (day/month/year) 24 July 2000 (24.07.00)	
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International filing date (day/month/year) 23 November 1999 (23.11.99)	Priority date (day/month/year) 23 November 1998 (23.11.98)
Applicant STRUNIN, Samuel, Wolf et al	

1. The designated Office is hereby notified of its election made:

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23 June 2000 (23.06.00)

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PCT COOPERATION TREATY

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From the INTERNATIONAL BUREAU

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OF A CHANGE(PCT Rule 92bis.1 and
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To:

CHERRY, James
Freehills Carter Smith & Beadle
Level 47
101 Collins Street
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Date of mailing (day/month/year) 24 July 2000 (24.07.00)	IMPORTANT NOTIFICATION
Applicant's or agent's file reference 40141767	
International application No. PCT/AU99/01043	International filing date (day/month/year) 23 November 1999 (23.11.99)

1. The following indications appeared on record concerning:		
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(21) International Application Number: PCT/AU99/01043 (22) International Filing Date: 23 November 1999 (23.11.99) (30) Priority Data: PP 7244 23 November 1998 (23.11.98) AU (71) Applicants (for all designated States except US): JSP NOMINEES PTY LTD [AU/AU]; 134 Toorak Road, South Yarra, Melbourne, Victoria 3141 (AU). WEERASINGHE, Jayanthi [LK/AU]; Private Bag 16, Sneydes Road, Werribee, Melbourne, Victoria 3030 (AU). (72) Inventors; and (75) Inventors/Applicants (for US only): STRUNIN, Samuel, Wolf [AU/AU]; 9 Wiseman Street, Hawthorn, Melbourne, Victoria 3122 (AU). JOLSON, Jerome, Bernard [AU/AU]; 16 Russell Street, Toorak, Melbourne, Victoria 3142 (AU). (74) Agents: CHERRY, James et al.; Freehills Patent Attorneys, Level 47, 101 Collins Street, Melbourne, Victoria 3000 (AU).		(81) Designated States: AE, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, CA, CH, CN, CR, CU, CZ, DE, DK, DM, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, NO, NZ, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TR, TT, TZ, UA, UG, US, UZ, VN, YU, ZA, ZW, ARIPO patent (GH, GM, KE, LS, MW, SD, SL, SZ, TZ, UG, ZW), Eurasian patent (AM, AZ, BY, KG, KZ, MD, RU, TJ, TM), European patent (AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE), OAPI patent (BF, BJ, CF, CG, CI, CM, GA, GN, GW, ML, MR, NE, SN, TD, TG). Published <i>With international search report.</i>
(54) Title: FROZEN ALCOHOLIC BEVERAGES (57) Abstract The invention relates to a freezable alcoholic beverage comprising alcohol, a mixer (such as water) and a stabiliser. The stabiliser may comprise various dextrans or vegetable gums. A method of producing a freezable alcoholic beverage is also described.		

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FROZEN ALCOHOLIC BEVERAGES

The present invention relates to frozen alcoholic beverages and processes for their preparation, in particular frozen alcoholic cocktails which can be used in hotels, pubs, night clubs, discos or other licensed venues.

5 It is difficult to freeze alcohol and produce a crystalline product. When alcohol is frozen either with or without a mixer, a non-crystalline gum is obtained. It is also desirable that such a product, upon being removed from cold storage to ambient temperature during consumption (eg. in normal use), does not quickly dissociate into its component parts. There is also a problem with packaging
10 alcoholic products as the alcohol has a tendency to degrade most packaging materials.

An existing alcoholic product which is in a non-liquid form is a product known as "Jellignite". This product is in the form of a jelly which is prepared by mixing jelly crystals with alcohol.

15 Accordingly, investigations were carried out into the manufacture of an alcoholic beverage which can be frozen to a crystalline form.

In one aspect of the present invention there is provided a freezable alcoholic beverage comprising alcohol, mixer and a stabiliser. Preferably the beverage has a crystalline structure when frozen and the mixer consists
20 essentially of water.

Preferably the alcohol is selected from a group including wine, spirits or liqueurs. The alcohol may include wine, spirits or liqueurs. Suitable wines include red wine, white wine and champagne. Examples of spirits include whisky such as Scotch whisky, Irish whisky, Canadian whisky, bourbon, Tennessee whisky,
25 American Blended whisky, Japanese whisky or Australian whisky, gin, vodka, tequila, brandy, rum and sake. Suitable liqueurs include fruit-based liqueurs, for example, advocaat, apricot brandy, blackberry brandy, blackberry liqueur, cherry brandy, cointreau, creme de banana, creme de cassis, creme de fraises, creme de framboises, curacao, drambuie, grand marnier, kirsch, maraschino, midori,
30 parfait amour, peach brandy, sabra or southern comfort, herb-based liqueurs, for

example, benedictine, bitters, chartreuse, creme de menthe or kummel and plant and nut-based liqueurs, for example, amaretto, anisette, creme de cacao, galliano, goldwasser, kahlua, ouzo, pernod, sambuca or tia maria (many of which are Registered Trade Marks). Generally, each of these exists as an alcohol
5 solution or emulsion.

The stabiliser is preferably selected so that when the beverage is frozen an edible ice or ice-cream product is formed which is pleasant to the mouth. It has been surprisingly found that suitable stabilisers include vegetable gums (or dextrins) such as those known as NP 3500 Guar Gum (vegetable gum INS no.
10 412) and NP 217LBG (derived from locust bean gum and known as vegetable gum INS no. 410) supplied by Germantown International Limited. Others which may be used include Mexpectin LC910 or RI461(Registered Trade Mark) and xanthan gum, for example, Keltrol GM (Registered Trade Mark).

Preferably the stabiliser is a dextrin or a mixture of dextrins. More
15 preferably, the stabiliser is selected from the group of guar gum, locust bean gum and xanthan gum or a mixture of any of them. In particular, it is preferred that the stabiliser consists essentially of a mixture of locust bean gum, pectin and xanthan gum in the ratio of about 35:15:3. It is preferable to pre-mix sugar into the stabiliser to help dispense the gums evenly, such that the sugar-stabiliser
20 composition is comprised of sugar:locust bean gum:pectin:xanthan gum in the ratio of about 47:35:15:3. This acts as a thickening agent, as well as a stabiliser and texture modifier.

The beverage may also desirably further include a mixer selected from the group of water, water-based mixers and dairy-based mixers, including milk, cream
25 and yoghurt. The mixer may be water or dairy based. Suitable water based mixers include water *per se*, mineral water, soda water, tonic water, bitter lemon, dry ginger ale, cordial, soft drink such as cola, raspberry or lemonade and fruit or vegetable juices such as orange juice, pineapple juice, lime juice, lemon juice or tomato juice. Examples of dairy based mixers include milk, cream and yoghurt.

30 In one preferred form, the invention provides a beverage consisting

essentially of a stabiliser, alcohol, citric acid, water, sweetener and one or more additives selected from the group of preservatives, colourants, flavourants and sweeteners.

5 The invention also provides a method for preparing a freezable alcoholic beverage, including the step of mixing an alcohol-water solution and a stabiliser so that the stabiliser is dissolved in the alcohol-water solution and the beverage is then frozen. Preferably, the stabiliser consists essentially of a mixture of locus bean gum, pectin and xanthan gum in the ratio of about 35:15:3.

10 The method may also include the step of first dissolving sugar in water before adding in the alcohol-water solution and the stabiliser.

In a preferred form, there is a method for preparing a freezable alcoholic beverage, including the steps of:

- (a) dissolving sugar in warm water to form a sugar solution;
- 15 (b) preparing a solution of citric acid dissolved in water and mixing it into the sugar solution;
- (c) separately mixing a stabiliser evenly into hot water and allowing it to hydrate, before adding this mixture to the mixture of solutions of step (b);
- 20 (d) subsequently adding an alcohol solution or emulsion to the mixture of solutions of step (c);
- (e) adding cold water to make up a predetermined volume.

Preferably, the method further includes after step (d) the step of adding one or more additives selected from the group of preservatives, colourants and flavourants. More preferably, a preservative is also added to the initial sugar-
25 water solution before the addition of the citric acid. The preservative may be

sodium benzoate.

It will be appreciated that one or more other known food additives such as colorants, flavourants, sweeteners, for example, citric acid, modified fats, air or emulsifying, gelling, thickening, anti-foaming or firming agents may be included in the beverage. In particular, the use of alcohol flavourants may be advantageous to reduce the amount of alcohol present in the beverage and assist in the freezing process.

The beverage may also include fruit which can add colour, flavour and thickness. Suitable fruits for this purpose include apples, apricots, avocados, bananas, cherries, grapefruit, lemon, limes, mandarins, mangoes, melons, oranges, passionfruit, peaches, pears, pineapples, raspberries and strawberries.

The mixing may be achieved by using any suitable known technique, such as, for example, agitation.

The beverage is advantageously stored in a package and frozen until the time of consumption. The package is preferably composed of a material which is not substantially degraded, when the beverage is frozen or liquid, and impermeable to alcohol. Suitable materials include foil and plastic, for example, a nylon/polyethylene extrusion laminate (available from WR Grace Australia Ltd ACN 004 207 532 as product R0179).

Thus, the present invention also provides a frozen alcoholic product which comprises a freezable alcoholic beverage as defined above contained in a package.

The term "package" is used herein in its broadest sense and includes any means for containing the beverage such as a parcel, film, container, box or bag. The package is generally sealed so as to prevent leakage of the contents, for example, by vacuum or heat sealing. A preferred package is a sealed tube.

It will be appreciated that the frozen beverage may also be in the form of a

confectionery product such as an ice-stick or ice-cream.

The invention will now be described with reference to the following Examples. These Examples are not to be construed as limiting the invention in any way.

5 Examples 1 to 5 exemplify one form of the invention. The alcohol contents of each of the formulations in Examples 1 to 5 are as in the following tables. Cheaper ingredients were substituted for the alcohol in two of the varieties, namely, melon liqueur and Wipe Out® for Midori® and Malibu®, respectively. The guar gum and locus bean gum were added to produce a product of acceptable
10 texture which is sufficiently stable.

The total soluble solids content in degrees Brix as measured by a standard refractometer of the formulations in Examples 1 to 5 are also as set out in the attached tables.

The two gums are slowly added in powder form to approximately half of the
15 total amount of water required and mixed under agitation at an ambient temperature. Once the gums have dissolved into the water, the gum and water mixture is left to stand for a period of at least fifteen minutes. This allows the gums to hydrate before adding any of the other components. The alcohol component is then added together with the flavouring (if any). The remaining
20 components and the remainder of the water are then added and the mixture stirred gently for five minutes to ensure complete and consistent mixing.

The formulation is then subjected to a brix reading which should be about 15°. The mixture is then packed into tubes as described above, heat sealed and frozen up to the time of consumption. Tubes of a 35ml volume have been found
25 convenient.

Freezing stability was assessed by aiming to detect organoleptic changes in textural qualities between samples frozen for several weeks and samples thawed and refrozen repeatedly over that time. No textural changes were detected.

It is considered that a temperature of about -15°C (as found in a typical refrigerator freezer box) is desirable for freezing and storing the ice-stick product.

Example 1 - Formulation for Vodka and Orange Frozen Alcoholic Ice Confection

COMPONENT	SPECIFICATION	SUPPLIER	PERCENTAGE % (by weight)
Vodka	37% alc/vol, 14° brix	Karloff (brand)	16.2
Vodka flavouring (natural)	code: 9/A03731C	Dragoco Australia	0.8 to 1%
Orange fruit juice cordial	33° brix	Home Brand (supermarket)	38.6
Locust bean gum	code: LOCGUM06	Scalzo Food Industries	0.06
Guar gum	FGF-1 (very fast hydration)	Henkel	0.04
Water			44.3

5 **Example 2 - Formulation for Vodka and Raspberry Frozen Alcoholic Ice Confection**

COMPONENT	SPECIFICATION	SUPPLIER	PERCENTAGE % (by weight)
Vodka	37% alc/vol, 14° brix	Karloff (brand)	16.2
Vodka flavouring (natural)	code: 9/A03731C	Dragoco Australia	0.8
Raspberry flavoured cordial	29° brix	Savings (supermarket)	43.9
Locust bean gum	code: LOCGUM06	Scalzo Food Industries	0.06
Guar gum	FGF-1 (very fast hydration)	Henkel	0.04
Water			39.0

Example 3 - Formulation for Scotch and Cola Frozen Alcoholic Ice Confection

COMPONENT	SPECIFICATION	SUPPLIER	PERCENTAGE % (by weight)
Scotch Whisky	37% alc/vol, 14.5° brix	Carlton Club (brand)	16.2
Whisky flavouring (natural)	code: 6/059075	Dragoco Australia	0.4 to 0.5 or 0.6
Cola flavoured cordial	42° brix	KiaOra (supermarket)	30.1
Locust bean gum	code: LOCGUM06	Scalzo Food Industries	0.06
Guar gum	FGF-1 (very fast hydration)	Henkel	0.04
Water			53.2

Example 4 - Formulation for Malibu and Pineapple Frozen Alcoholic Ice Confection

COMPONENT	SPECIFICATION	SUPPLIER	PERCENTAGE % (by weight)
Wipeout	21% alc/vol, 26° brix	Grunters (brand)	28.6
Coconut rum and pineapple flavouring	Rum flavouring 9/A04891 and pineapple flavouring 9/693148	Dragoco Australia	0.4 to 0.6
Pineapple crush fruit juice cordial	43.5°	Golden Circle (supermarket)	17.1
Locust bean gum	code: LOCGUM06	Scalzo Food Industries	0.06
Guar gum	FGF-1 (very fast hydration)	Henkel	0.04
Water			53.6 to 53.8

N.B: No flavouring is added to the product in this example.

Example 5 - Formulation for Midori and Lemonade Frozen Alcoholic Ice Confection

COMPONENT	SPECIFICATION	SUPPLIER	PERCENTAGE % (by weight)
Melon liqueur	22.9% alc/vol, 38° brix	Seagram's (brand)	26.2
Melon flavouring (N.I.)	code: 6/062830	Dragoco Australia	0.4 to 0.6
Lemonade soft drink base	58.5° brix	Schweppes	8.6
Locust bean gum	code: LOCGUM06	Scalzo Food Industries	0.06
Guar gum	FGF-1 (very fast hydration)	Henkel	0.04
Water			64.7

It will be apparent to one skilled in the art that other flavourings could be used in further formulations of a freezable alcoholic beverage according to the invention. Other formulations of the invention could include a flavouring or drink base which is a dairy product.

Each of these products has 15° brix and 6% alcohol in the final product, and will remain frozen at -15°C.

In Examples 6 to 11, another aspect of the invention is described being an industrially applicable method of manufacturing a freezable alcoholic beverage. The beverage produced by each of these examples has a brix reading of 14.5° and an alcoholic content of 6.5% w/v. The brix reading is the product largely of the dissolved sugar (both added sugar and sugar from wine). The acid content varies from 0.2 to 0.3% w/v Anhydrous Citric Acid ("ACA"). The acid reading is specified in each example.

The examples are all made by the following method to manufacture 1000 litre batches. The components are added in the amounts specified in the table in each of the examples.

To manufacture the freezable alcoholic beverage of this aspect of the invention, the sugar (except for a small proportion equivalent to about 4 times the weight of the stabiliser being used) is dissolved in a minimal quantity of warm water (generally 4 to 5 times the amount by weight of the sugar is sufficient at a temperature of 40 to 50°C). While an increased temperature will facilitate dissolving of the sugar, it is desirable that the temperature of the overall mixture not be too high in later steps so as to minimise the loss of flavouring vapours and the like (eg, from wine). Alternatively, liquid sugar syrup (of a given brix level) may be used with a comparable equivalent level of sugar to the amount specified in each table. The sodium benzoate, (a known preservative, INS no. 211) is dissolved in a separate amount of hot water before being added to the main tank containing the sugar dissolved in water. All contents are then mixed well. The citric acid is then also dissolved separately in hot water and again added to the main tank, after the sodium benzoate.

The component identified as the "stabiliser" in each table is pre-formulated in bulk prior to this process. This stabiliser is dry blended with the withheld proportion of the sugar being about 4 times the weight of the stabiliser. The dry blending occurs with a sugar:stabiliser ratio of about 4:1. The dry blended mixture is then slowly added to a separate tank of hot water (sufficient water to make a 1 to 2% solution, eg 150 to 250 litres is used) with good agitation and allowed to hydrate for 30 minutes. It is important that this solution does not have any visible gum lumps or spots. The stabiliser solution is then added to the main tank and mixed well. Next, the wine is added and mixed well into the main tank. Finally, colours and flavours are added to the main tank and mixed well. Cold water is then added to make up the volume to 1000 litres, again with good mixing.

For health reasons, it may be desirable to pasteurise the product before dispensing it into individual packaging. Wild yeast may be introduced from the sugar or wine, or possibly other components. Pasteurisation, and the methods of achieving it, are known to one skilled in the art.

The components for Examples 6 to 11 are set out in the following tables. In the following tables, abbreviations are used as follows:



- Ni - nature identical
 - Fl - flavour
 - Pmx - premix
 - Col - colour
- 5
- Pwd - powder
 - BBAA - Bush Boake Allen Australia Ltd ACN 004 269 658 of 310 Dandenong Valley Highway, Dandenong, Victoria, 3175, Australia

Further, the numerical codes adjacent to components is a product number for the supplier listed in the supplier column. Where no supplier is listed, the product is widely commercially available.

The component identified as "56-4458 water ice stabiliser" is a mixture of sugar (47%) and vegetable gums, namely locust bean (carob bean) gum (INS no. 410) 35%, pectin (INS no. 440(a)) 15% and xanthan gum (INS no. 415) 3% (percentages being by weight).

15 **Example 6 - Formulation for Bourbon and Cola Frozen Alcoholic Ice Confection**

Acid - 0.2% w/v ACA

COMPONENT	SUPPLIER	PERCENTAGE % (by weight)
Sugar		130.00 kg
Sodium Benzoate		0.47 kg
Citric Acid Anhydrous		1.00 kg
56-4458 water ice stabiliser	BBAA	2.50 kg
Wine (22%)	Southcorp	296.00 litres
11-3502 Citraroma Cola Fl Pmx	BBAA	2.00 litres
11-1528 Ni Whisky Fl	BBAA	0.70 litres
Water		To make total volume of 1000 litres

Example 7 - Formulation for Melon and Lemon Frozen Alcoholic Ice Confection*Acid - 0.2% w/v ACA*

COMPONENT	SUPPLIER	PERCENTAGE % (by weight)
Sugar		130.00 kg
Sodium Benzoate		0.47 kg
Citric Acid Anhydrous		1.00 kg
56-4458 water ice stabiliser	BBAA	2.50 kg
Wine (22%)	Southcorp	296.00 litres
06-0404 Natural Sol Lemon FI	BBAA	1.50 litres
05-5000Ni Melon FI	BBAA	0.12 litres
Brilliant Blue Col Pwd		0.0005 kg
Tartrazine Col Pwd		0.01 kg
Water		To make total volume of 1000 litres

5 Example 8 - Formulation for Rum Pine and Coconut Frozen Alcoholic Ice Confection*Acid: 0.2% w/v ACA*

COMPONENT	SUPPLIER	PERCENTAGE % (by weight)
Sugar		130.00 kg
Sodium Benzoate		0.47 kg
Citric Acid Anhydrous		1.25 kg
56-4458 water ice stabiliser	BBAA	2.50 kg
Wine (22%)	Southcorp	296.00 litres
07-8678 Ni Pineapple FI	BBAA	1.00 litres
08-9557Rum FI	BBAA	1.50 litres
03-4296 Ni Coconut FI	BBAA	0.05 litres
Tartrazine Col Pwd		0.01 kg
Water		To make total volume of 1000 litres

Example 9 - Formulation for Vodka Lemon Lime Frozen Alcoholic Ice Confection*Acid: 0.3% w/v ACA*

COMPONENT	SUPPLIER	PERCENTAGE % (by weight)
Sugar		130.00 kg
Sodium Benzoate		0.47 kg
Citric Acid Anhydrous		2.00 kg
56-4458 water ice stabiliser	BBAA	2.50 kg
Wine (22%)	Southcorp	296.00 litres
05-9006 Natural Sol Lemon FI	BBAA	4.00 litres
Water		To make total volume of 1000 litres

5 Example 10 - Formulation for Vodka & Orange Frozen Alcoholic Ice Confection*Acid: 0.2% w/v ACA*

COMPONENT	SUPPLIER	PERCENTAGE % (by weight)
Sugar		130.00 kg
Sodium Benzoate		0.47 kg
Citric Acid Anhydrous		1.00 kg
56-4458 water ice stabiliser	BBAA	2.50 kg
Wine (22%)	Southcorp	296.00 litres
07-2241 Natural Sol Orange FI	BBAA	3.00 litres
Sunset Yellow Col Pwd		0.10 kg
Water		To make total volume of 1000 litres

Example 11 - Formulation for Vodka & Raspberry Frozen Alcoholic Ice Confection*Acid: 0.2% w/v ACA*

COMPONENT	SUPPLIER	PERCENTAGE % (by weight)
Sugar		130.00 kg
Sodium Benzoate		0.47 kg
Citric Acid Anhydrous		1.00 kg
56-4458 water ice stabiliser	BBAA	2.50 kg
Wine (22%)	Southcorp	296.00 litres
08-4246 Ni Raspberry Fl No. 1	BBAA	4.00 litres
22-1762 Caramel Colour 'N'	BBAA	0.20 kg
Ponceau Col Pwd		0.03 kg
Water		To make total volume of 1000 litres

After the manufacturing process described above, the end product is, at
5 room temperature, a relatively non-viscous liquid which is easily handled.
Packages manufactured as described above, such as in the form of a tube closed
at one end can then be filled from the main tank containing the mixture. Once
filled, the open end of the tube may be closed, for example by heat sealing. The
entire package may then be frozen, and kept in that form until opened by a
10 consumer for immediate consumption.

It will also be understood that the term "comprises" or its grammatical
variants as used herein is equivalent to the term "includes" and is not to be taken
as excluding the presence of other elements or features.

It will be understood that the invention disclosed and defined herein
15 extends to all alternative combinations of two or more of the individual features
mentioned or evident from the text. All of these different combinations constitute
various alternative aspects of the invention.

CLAIMS

The invention is defined by the following claims.

- 1 A freezable alcoholic beverage comprising alcohol, mixer and a stabiliser.
- 2 A beverage according to claim 1 which has a crystalline structure when
5 frozen.
- 3 A beverage according to claim 1 or 2 in which the alcohol is selected from a group including wine, spirits or liqueurs.
- 4 A beverage according to any one of claims 1 to 3 in which the mixer consists essentially or only of water.
- 10 5 A beverage according to any one of claims 1 to 4 in which the stabiliser comprises vegetable gum selected from the group of guar gum, locust bean gum and xanthan gum or a mixture of any of them.
- 6 A beverage according to any one of claims 1 to 4 in which the stabiliser is a dextrin or a mixture of dextrins.
- 15 7 A beverage according to claim 5 or 6 in which the stabiliser consists essentially of a mixture of locust bean gum, pectin and xanthan gum in the ratio of about 35:15:3.
- 8 A beverage according to claim 5 or 6 in which the stabiliser consists essentially of a mixture of sugar, locust bean gum, pectin and xanthan gum
20 in the ratio of about 47:35:15:3.
- 9 A beverage according to any one of the preceding claims further including a mixer selected from the group of water, water-based mixers and dairy-based mixers, including milk, cream and yoghurt.

- 10 A beverage according to any one of the previous claims further comprising one or more additives selected from the group of preservatives, colourants, flavourants and sweeteners.
- 5 11 A beverage according to any one of the previous claims further comprising one or more of citric acid, modified fats, air or emulsifying agents, gelling agents, thickening agents, anti-foaming agents and firming agents.
- 10 12 A beverage according to any one of claims 5 to 8 consisting essentially of a stabiliser, alcohol, citric acid, water, sweetener and one or more additives selected from the group of preservatives, colourants, flavourants and sweeteners.
- 13 13 A beverage according to any one of the previous claims further comprising fruit.
- 15 14 A method for preparing a freezable alcoholic beverage, including the step of mixing an alcohol-water solution and a stabiliser so that the stabiliser is dissolved in the alcohol-water solution and the beverage is then frozen.
- 15 15 A method according to claim 14 in which the stabiliser consists essentially of a mixture of locus bean gum, pectin and xanthan gum in the ratio of about 35:15:3.
- 20 16 A method according to claim 14 in which the stabiliser consists essentially of a mixture of sugar, locust bean gum, pectin and xanthan gum in the ratio of about 47:35:15:3.
- 17 17 A method according to any one of claims 14 to 16 further including the step of first dissolving sugar in water before adding to the alcohol-water solution and the stabiliser.
- 25 18 A method for preparing a freezable alcoholic beverage, including the steps of:

- (a) dissolving sugar in warm water to form a sugar solution;
- (b) preparing a solution of citric acid dissolved in water and mixing it into the sugar solution;
- 5 (c) separately mixing a stabiliser evenly into hot water and allowing it to hydrate, before adding this mixture to the mixture of solutions of step (b);
- (d) subsequently adding an alcohol solution or emulsion to the mixture of solutions of step (c);
- (e) adding cold water to make up a predetermined volume.
- 10 19 The method of claim 18 further including after step (d) the step of adding one or more additives selected from the group of preservatives, colourants and flavourants.
- 20 20 The method of claim 18 or 19 in which stabiliser comprises dextrin or a mixture of dextrans.
- 15 21 The method of claim 18 or 19 in which stabiliser consists essentially of a pre-mix of sugar, pectin, locus bean gum and xanthan gum.
- 22 22 A method according to any one of claims 18 to 21 in which a preservative is added to the initial sugar-water solution of step (a) before the addition of the citric acid.
- 20 23 A method according to claim 22 in which the preservative is sodium benzoate.
- 24 24 A method according to any one of claims 18 to 23 in which the alcohol solution is wine.
- 25 25 A method according to any one of claims 18 to 23 in which the alcohol

solution or emulsion includes water, a water-based mixer or a dairy-based mixer, including milk, cream and yoghurt.

- 26 A frozen alcoholic beverage made according to the method of any one of claims 14 to 25.
- 5 27 A frozen alcoholic product comprising a freezable alcoholic beverage according to any one of claims 1 to 13 when contained in a package (as herein defined).
- 28 A product according to claim 27, in which the package is composed of foil and plastic.
- 10 29 A product according to claim 28 in which the package is composed of a nylon/polyethylene extrusion laminate.
- 30 A product comprising a freezable alcoholic beverage according to any one of claims 1 to 13 shaped in the form of an ice-stick or ice-cream.

INTERNATIONAL SEARCH REPORT

International application No.

PCT/AU 99/01043

A. CLASSIFICATION OF SUBJECT MATTER																						
Int Cl ⁶ : A23G 9/00, 9/02, 9/04 A23L 1/05, 1/0522, 1/0524, 1/0526, 1/054 C12G 3/00, 3/04, 3/06																						
According to International Patent Classification (IPC) or to both national classification and IPC																						
B. FIELDS SEARCHED																						
Minimum documentation searched (classification system followed by classification symbols) IPC : A23G 9/-, A23L, C12G 3/- AND KEYWORDS																						
Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched																						
Electronic data base consulted during the international search (name of data base and, where practicable, search terms used) CHEMICAL ABSTRACTS : freez? or froz? or ice? or icy or softice? or sorbet? and alcohol?? and beverage?? WPAT : keywords as above.																						
C. DOCUMENTS CONSIDERED TO BE RELEVANT																						
Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.																				
X	WO 97/15199 A (MACLEOD) 1 May 1997 Page 7 line 4 to page 10 line 2 and claims 1, 12, and 13	1-30																				
X	WO 96/11578 A (BROWN-FORMAN CORP.) 25 April 1996 Page 5 lines 2-28, page 10 line 19 to page 12 line 10	1-26 and 30																				
X	Page 5 line 29 to page 6 line 17 and page 17 line 3 to page 18 line 31	27-29																				
X	US 4 790 999 A (ASHMONT) 13 December 1988 Column 2 line 21 to column 3 line 64 and column 4 lines 18-37	1-26 and 30																				
X	Column 4 line 49 to column 5 line 22	27-29																				
<input checked="" type="checkbox"/> Further documents are listed in the continuation of Box C <input checked="" type="checkbox"/> See patent family annex																						
<p>* Special categories of cited documents:</p> <table border="0"> <tr> <td>"A"</td> <td>document defining the general state of the art which is not considered to be of particular relevance</td> <td>"T"</td> <td>later document published after the international filing date or priority date and not in conflict with the application but cited to understand the principle or theory underlying the invention</td> </tr> <tr> <td>"E"</td> <td>earlier application or patent but published on or after the international filing date</td> <td>"X"</td> <td>document of particular relevance; the claimed invention cannot be considered novel or cannot be considered to involve an inventive step when the document is taken alone</td> </tr> <tr> <td>"L"</td> <td>document which may throw doubts on priority claim(s) or which is cited to establish the publication date of another citation or other special reason (as specified)</td> <td>"Y"</td> <td>document of particular relevance; the claimed invention cannot be considered to involve an inventive step when the document is combined with one or more other such documents, such combination being obvious to a person skilled in the art</td> </tr> <tr> <td>"O"</td> <td>document referring to an oral disclosure, use, exhibition or other means</td> <td>"&"</td> <td>document member of the same patent family</td> </tr> <tr> <td>"P"</td> <td>document published prior to the international filing date but later than the priority date claimed</td> <td></td> <td></td> </tr> </table>			"A"	document defining the general state of the art which is not considered to be of particular relevance	"T"	later document published after the international filing date or priority date and not in conflict with the application but cited to understand the principle or theory underlying the invention	"E"	earlier application or patent but published on or after the international filing date	"X"	document of particular relevance; the claimed invention cannot be considered novel or cannot be considered to involve an inventive step when the document is taken alone	"L"	document which may throw doubts on priority claim(s) or which is cited to establish the publication date of another citation or other special reason (as specified)	"Y"	document of particular relevance; the claimed invention cannot be considered to involve an inventive step when the document is combined with one or more other such documents, such combination being obvious to a person skilled in the art	"O"	document referring to an oral disclosure, use, exhibition or other means	"&"	document member of the same patent family	"P"	document published prior to the international filing date but later than the priority date claimed		
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"P"	document published prior to the international filing date but later than the priority date claimed																					
Date of the actual completion of the international search 15 December 1999		Date of mailing of the international search report 11 JAN 2000																				
Name and mailing address of the ISA/AU AUSTRALIAN PATENT OFFICE PO BOX 200, WODEN ACT 2606, AUSTRALIA E-mail address: pct@ipaustalia.gov.au Facsimile No. (02) 6285 3929		Authorized officer ANDREW ACHILLEOS Telephone No.: (02) 6283 2280																				

INTERNATIONAL SEARCH REPORT

International application No.

PCT/AU 99/01043

C (Continuation). DOCUMENTS CONSIDERED TO BE RELEVANT		
Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
X	US 3 956 511 A (MITCHELL et al) 11 May 1976 Abstract and claims	1,6
X	Patent Abstracts of Japan, C-121, page 1020, JP 4-258282 A (TAMON SHIYUZOU K.K.) 14 September 1992 abstract	1-4,9-13,14,18
X	Patent Abstracts of Japan, C-101, page 351, JP 60-137275 A (SUNTORY K.K.) 20 July 1985 abstract	1-4,6,9-13 14,18

INTERNATIONAL SEARCH REPORT

International application No.

PCT/AU 99/01043

Box I Observations where certain claims were found unsearchable (Continuation of item 1 of first sheet)

This international search report has not been established in respect of certain claims under Article 17(2)(a) for the following reasons:

1. ☐ Claims Nos.:
because they relate to subject matter not required to be searched by this Authority, namely:
2. ☐ Claims Nos.:
because they relate to parts of the international application that do not comply with the prescribed requirements to such an extent that no meaningful international search can be carried out, specifically:
3. ☐ Claims Nos.:
because they are dependent claims and are not drafted in accordance with the second and third sentences of Rule 6.4(a)

Box II Observations where unity of invention is lacking (Continuation of item 2 of first sheet)

This International Searching Authority found multiple inventions in this international application, as follows:

Claims 1-26 and 30 define a freezable or frozen alcoholic beverage.

Claims 27-29 define said beverage when contained in a package.

As said beverage is not novel claims 27-29 *a posteriori* define a package.

1. ☐ As all required additional search fees were timely paid by the applicant, this international search report covers all searchable claims
2. ☒ As all searchable claims could be searched without effort justifying an additional fee, this Authority did not invite payment of any additional fee.
3. ☐ As only some of the required additional search fees were timely paid by the applicant, this international search report covers only those claims for which fees were paid, specifically claims Nos.:
4. ☐ No required additional search fees were timely paid by the applicant. Consequently, this international search report is restricted to the invention first mentioned in the claims; it is covered by claims Nos.:

Remark on Protest

- ☐ The additional search fees were accompanied by the applicant's protest.
- ☐ No protest accompanied the payment of additional search fees.

INTERNATIONAL SEARCH REPORT

Information on patent family members

International application No.
PCT/AU 99/01043

This Annex lists the known "A" publication level patent family members relating to the patent documents cited in the above-mentioned international search report. The Australian Patent Office is in no way liable for these particulars which are merely given for the purpose of information.

Patent Document Cited in Search Report				Patent Family Member			
WO	97/15199	AU	72727/96	EP	857023		
WO	96/11578	AU	38333/95	BR	9509327	CA	2166626
		EP	731639	GB	2297093	NZ	294533
		SG	64984	ZA	9508676		
US	4790999	AU	80454/87	EP	268097	JP	63160572
US	3956511	AU	53728/73	CA	1015296	DE	2315672
		FR	2178983	GB	1406783	JP	49013397
END OF ANNEX							

INTERNET 2001

INTERNATIONAL SEARCH REPORT

International application No.
PCT/AU 99/01043

A. CLASSIFICATION OF SUBJECT MATTER

Int Cl⁶: A23G 9/00, 9/02, 9/04 A23L 1/05, 1/0522, 1/0524, 1/0526, 1/054 C12G 3/00, 3/04, 3/06

According to International Patent Classification (IPC) or to both national classification and IPC

B. FIELDS SEARCHED

Minimum documentation searched (classification system followed by classification symbols)

IPC : A23G 9/-, A23L, C12G 3/- AND KEYWORDS

Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched

Electronic data base consulted during the international search (name of data base and, where practicable, search terms used)

CHEMICAL ABSTRACTS : freez? or froz? or ice? or icy or softice? or sorbet? and alcohol?? and beverage??

WPAT : keywords as above.

C. DOCUMENTS CONSIDERED TO BE RELEVANT

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X	Column 4 line 49 to column 5 line 22	27-29

☒ Further documents are listed in the
continuation of Box C

☒ See patent family annex

Special categories of cited documents:

"A" document defining the general state of the art which is not considered to be of particular relevance
"E" earlier application or patent but published on or after the international filing date
"L" document which may throw doubts on priority claim(s) or which is cited to establish the publication date of another citation or other special reason (as specified)
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"Y" document of particular relevance; the claimed invention cannot be considered to involve an inventive step when the document is combined with one or more other such documents, such combination being obvious to a person skilled in the art
"&" document member of the same patent family

Date of the actual completion of the international search
15 December 1999

Date of mailing of the international search report

11 JAN 2000

Name and mailing address of the ISA/AU

AUSTRALIAN PATENT OFFICE
PO BOX 200, WODEN ACT 2606, AUSTRALIA
E-mail address: pct@ipaustralia.gov.au
Facsimile No. (02) 6285 3929

Authorized officer

ANDREW ACHILLEOS
Telephone No.: (02) 6283 2230

INTERNATIONAL SEARCH REPORT

International application No.

PCT/AU 99/01043

C (Continuation). DOCUMENTS CONSIDERED TO BE RELEVANT		
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X	Patent Abstracts of Japan, C-101, page 351, JP 60-137275 A (SUNTORY K.K.) 20 July 1985 abstract	1-4,6,9-13 14,18

INTERNATIONAL SEARCH REPORT

International application No.

PCT/AU 99/01043

Box I Observations where certain claims were found unsearchable (Continuation of item 1 of first sheet).

This international search report has not been established in respect of certain claims under Article 17(2)(a) for the following reasons:

1. ☐ Claims Nos.:
because they relate to subject matter not required to be searched by this Authority, namely:
2. ☐ Claims Nos.:
because they relate to parts of the international application that do not comply with the prescribed requirements to such an extent that no meaningful international search can be carried out, specifically:
3. ☐ Claims Nos.:
because they are dependent claims and are not drafted in accordance with the second and third sentences of Rule 6.4(a)

Box II Observations where unity of invention is lacking (Continuation of item 2 of first sheet)

This International Searching Authority found multiple inventions in this international application, as follows:

Claims 1-26 and 30 define a freezable or frozen alcoholic beverage.

Claims 27-29 define said beverage when contained in a package.

As said beverage is not novel claims 27-29 *a posteriori* define a package.

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Remark on Protest

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Information on patent family members

PCT/AU 99/01043

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WO	97/15199	AU	72727/96	EP	857023		
WO	96/11578	AU	38333/95	BR	9509327	CA	2166626
		EP	731639	GB	2297093	NZ	294533
		SG	64984	ZA	9508676		
US	4790999	AU	80454/87	EP	268097	JP	63160572
US	3956511	AU	53728/73	CA	1015296	DE	2315672
		FR	2178983	GB	1406783	JP	49013397

END OF ANNEX

ATENT COOPERATION TREA

PCT/PCT Rec'd 22 MAY 2001

PCT

INTERNATIONAL PRELIMINARY EXAMINATION REPORT

(PCT Article 36 and Rule 70)

Applicant's or agent's file reference JWC:cl 401	FOR FURTHER ACTION	See Notification of Transmittal of International Preliminary Examination Report (Form PCT/IPEA/416).
International Application No. PCT/AU99/01043	International Filing Date (day/month/year) 23 November 1999	Priority Date (day/month/year) 23 November 1998
International Patent Classification (IPC) or national classification and IPC Int. Cl. ⁷ A23G 9/00, 9/02, 9/04 A23L 1/05, 1/0522, 1/0524, 1/0526, 1/054 C12G 3/00, 3/04, 3/06		
Applicant ISP NOMINEES PTY LTD et al		

1.	This international preliminary examination report has been prepared by this International Preliminary Examining Authority and is transmitted to the applicant according to Article 36.																								
2.	This REPORT consists of a total of 7 sheets, including this cover sheet. <input type="checkbox"/> This report is also accompanied by ANNEXES, i.e., sheets of the description, claims and/or drawings which have been amended and are the basis for this report and/or sheets containing rectifications made before this Authority (see Rule 70.16 and Section 607 of the Administrative Instructions under the PCT). These annexes consist of a total of sheet(s).																								
3.	This report contains indications relating to the following items: <table border="0"> <tr> <td>I</td> <td><input checked="" type="checkbox"/></td> <td>Basis of the report</td> </tr> <tr> <td>II</td> <td><input type="checkbox"/></td> <td>Priority</td> </tr> <tr> <td>III</td> <td><input type="checkbox"/></td> <td>Non-establishment of opinion with regard to novelty, inventive step and industrial applicability</td> </tr> <tr> <td>IV</td> <td><input checked="" type="checkbox"/></td> <td>Lack of unity of invention</td> </tr> <tr> <td>V</td> <td><input checked="" type="checkbox"/></td> <td>Reasoned statement under Article 35(2) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement</td> </tr> <tr> <td>VI</td> <td><input type="checkbox"/></td> <td>Certain documents cited</td> </tr> <tr> <td>VII</td> <td><input type="checkbox"/></td> <td>Certain defects in the international application</td> </tr> <tr> <td>VIII</td> <td><input checked="" type="checkbox"/></td> <td>Certain observations on the international application</td> </tr> </table>	I	<input checked="" type="checkbox"/>	Basis of the report	II	<input type="checkbox"/>	Priority	III	<input type="checkbox"/>	Non-establishment of opinion with regard to novelty, inventive step and industrial applicability	IV	<input checked="" type="checkbox"/>	Lack of unity of invention	V	<input checked="" type="checkbox"/>	Reasoned statement under Article 35(2) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement	VI	<input type="checkbox"/>	Certain documents cited	VII	<input type="checkbox"/>	Certain defects in the international application	VIII	<input checked="" type="checkbox"/>	Certain observations on the international application
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VII	<input type="checkbox"/>	Certain defects in the international application																							
VIII	<input checked="" type="checkbox"/>	Certain observations on the international application																							

Date of submission of the demand 23 June 2000	Date of completion of the report 9 November 2000
Name and mailing address of the IP/AU AUSTRALIAN PATENT OFFICE PO BOX 200, WODEN ACT 2606, AUSTRALIA E-mail address: pct@ipaustalia.gov.au Facsimile No. (02) 6285 3929	Authorized Officer ANDREW ACHILLEOS Telephone No. (02) 6283 2280

I. Basis of the report

1. With regard to the elements of the international application:*
- ☒ the international application as originally filed.
- ☐ the description, pages , as originally filed,
 pages , filed with the demand,
 pages , received on with the letter of
- ☐ the claims, pages , as originally filed,
 pages , as amended (together with any statement) under Article 19,
 pages , filed with the demand,
 pages , received on with the letter of
- ☐ the drawings, pages , as originally filed,
 pages , filed with the demand,
 pages , received on with the letter of
- ☐ the sequence listing part of the description:
 pages , as originally filed
 pages , filed with the demand
 pages , received on with the letter of
2. With regard to the language, all the elements marked above were available or furnished to this Authority in the language in which the international application was filed, unless otherwise indicated under this item.
These elements were available or furnished to this Authority in the following language which is:
- ☐ the language of a translation furnished for the purposes of international search (under Rule 23.1(b)).
- ☐ the language of publication of the international application (under Rule 48.3(b)).
- ☐ the language of the translation furnished for the purposes of international preliminary examination (under Rules 55.2 and/or 55.3).
3. With regard to any nucleotide and/or amino acid sequence disclosed in the international application, was on the basis of the sequence listing:
- ☐ contained in the international application in written form.
- ☐ filed together with the international application in computer readable form.
- ☐ furnished subsequently to this Authority in written form.
- ☐ furnished subsequently to this Authority in computer readable form.
- ☐ The statement that the subsequently furnished written sequence listing does not go beyond the disclosure in the international application as filed has been furnished.
- ☐ The statement that the information recorded in computer readable form is identical to the written sequence listing has been furnished
4. ☐ The amendments have resulted in the cancellation of:
- ☐ the description, pages
- ☐ the claims, Nos.
- ☐ the drawings, sheets/fig.
5. ☐ This report has been established as if (some of) the amendments had not been made, since they have been considered to go beyond the disclosure as filed, as indicated in the Supplemental Box (Rule 70.2(c)).**

* Replacement sheets which have been furnished to the receiving Office in response to an invitation under Article 14 are referred to in this report as "originally filed" and are not annexed to this report since they do not contain amendments (Rules 70.16 and 70.17).

** Any replacement sheet containing such amendments must be referred to under item 1 and annexed to this report

V. Reasoned statement under Article 35(2) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement

1. Statement

Novelty (N)	Claims 7, 8	YES
	Claims 1-6, 9-30	NO
Inventive step (IS)	Claims	YES
	Claims 1-30	NO
Industrial applicability (IA)	Claims 1-30	YES
	Claims	NO

2. Citations and explanations (Rule 70.7)

NOVELTY (N)

WO 97/15199

Claims 1-5, 9-14, 17-19, 24-26 and 30

The compositions of this citation form a frozen alcoholic beverage that is rigid enough to form onto a stick or form a shape that is vertically free standing (page 1 lines 12-19). The composition is broadly defined at page 3 lines 7-11, the composition comprises 89% by volume of alcoholic liquid (alcohol and mixer) and 11% by volume of whipping cream, in this composition is also dissolved sugar and neutral gelatine. An example is given at page 6 line 12 to page 7 line 8. The composition of your claims 1-5 and 9-13 is disclosed as you do not exclude the use of whipped cream. Alternative stabilisers to gelatine are disclosed at page 9 line 24 to page 10 line 2 and include locust bean gum, guar gum and xanthan gum.

The method of claims 14 and 17 is disclosed in the citation at page 3 lines 13-22. The method of claims 18, 19 and 24-26 is also disclosed at page 3 lines 13-22, the addition of citric acid is common in the art as it acts as an acidulant.

Claim 30 is disclosed by the citation at page 3 lines 13-22 and fig. 1.

WO 96/11578

Claims 1-5, 9-14, 17-19, 23-29

The citation above discloses the composition of your claims 1-5 and 9-13. The citation at page 5 lines 2-28 discloses a beverage alcohol, water (mixer) and a stabiliser system which includes guar gum and locust bean gum and optionally pectin. The composition also comprises sugar and may contain a common acidulant such as citric acid. The product of the citation has the consistency a semi-frozen soft ice (refer to page 10 lines 4-18). As the product contains ice crystals it is frozen and the composition is freezable.

The method of your claims 14, 17, 18 and 19 are disclosed in the citation at pages 20 and 21, examples 1A-1B. At page 8 line 29-to page 9 line 10 the citation defines a beverage alcohol to include wine, at page 10 line 13 a pina colada product is disclosed (dairy containing) and page 15 line 35 discloses the use of sodium benzoate as a preservative, therefore claims 23-26 are not novel.

The citation above discloses formulated alcoholic beverages contained in a package, the packages are disclosed at page 5 line 29 to page 6 line 17 and page 17 line 2 to page 18 line 31 and include those of the type defined by your claims 27-29.

VIII Certain observations on the international application

The following observations on the clarity of the claims, description, and drawings or on the question whether the claims are fully supported by the description, are made:

1. Claim 1 is not clear as the term 'stabiliser' is of indefinite scope. There is an indefinite number of compounds that are within the scope of the term 'stabiliser', some of which would be beyond the disclosure of your description.
2. Claim 1 is not clear as the term 'alcohol' would include compounds that would be toxic to humans eg methanol and therefore could not be used in beverages.
3. Claim 12 is not clear, it is appended to claims 5-8, which define certain stabilisers eg. dextrin, yet claim 12 attempts to define a broader scope by defining a composition comprising 'essentially of a stabiliser, alcohol ...'. Also, claim 12 is of indefinite scope as the term 'essentially' is of indefinite scope.

Supplemental Box

(To be used when the space in any of the preceding boxes is not sufficient)

Continuation of Box V

NOVELTY (N) cont.

US 4790999

Claims 1-4, 9-14, 17-19, 24-29

The citation above discloses a freezable alcoholic beverage composition comprising alcohol, water and flavourants (mixer) and carboxymethylcellulose (stabiliser); the composition also comprises sugars (refer to column 2 line 21 to column 3 line 20). The use of citric acid as an acidulant is disclosed at column 4 lines 18-29. As such claims 1-4 and 9-13 and 26 are not novel.

Your method claims 14, 17-19, 24 and 25 are not novel in light of the method of the citation disclosed at column 5 example 1.

Your claims 26-29 are not novel in light of the packaging disclosed at column 4 line 49 to column 5 line 22 of the citation.

US 3956511

Claims 1 and 6

The composition of the citation is within the scope of your claim 1. Your claim 1 defines a composition comprising alcohol, a mixer and a stabiliser. Example III of the citation discloses a composition comprising ethanol, dextrin and water. Example IV of the citation discloses a composition comprising ethanol, dextrin and a daiquiri mix. The limitation on your claim 1 that the composition be freezable means that it is able to be frozen; if the temperature was low enough the composition of the citation would freeze therefore it is freezable. As such your claims 1 and 6 are anticipated by the citation.

JP 4-258282

Claims 1-4, 9-13

The citation discloses a liquor composition containing a gelling agent that can be frozen. The gelling agent is preferably agar, gelatin, carrageenan etc. The citation therefore anticipates the compositions of your claims 1-4, 9-13.

JP 60-13275

Claims 1-4, 6, 9-13

The citation discloses a composition comprising ethanol, water, a stabiliser such as dextrin and a stabiliser such as carboxymethylcellulose, a milky component and a sweetener. The composition is capable of being uniformly frozen. Therefore your composition claims above are anticipated.

Supplemental Box

(To be used when the space in any of the preceding boxes is not sufficient)

Continuation of Box V

INVENTIVE STEP (IS)

WO 97/15199

Claims 1-30

The compositions of claims 1-5 and 9-13 are disclosed in the citation above. The mixture of stabilising agents of claims 7 and 8 would be the result of process optimisation, you disclose at page 10 lines 6, 7 and 11-14 that this mixture of stabilising agents is commercially available. Claim 6 defines dextrin as the stabiliser, however, dextrin is a known thickening agent, as are the substitutes for gelatine disclosed at page 9 line 24 to page 10 line 2 of the citation. As you have not disclosed any advance that dextrin has over the substitutes for gelatine disclosed in the citation dextrin would be a technical equivalent of the disclosed substitutes for gelatine.

The method of claims 14 and 17 is disclosed in the citation above. Claims 15 and 16 would be the result of process optimisation.

The method of claim 18 is disclosed in the citation above (refer to page 3 lines 13-22), the addition of citric acid is common in the art as it acts as an acidulant. Appended claims 19-25 do not add anything inventive to the method of claim 18.

Claim 26 is disclosed by the citation above. The packaging of claims 27-29 is known (page 4 lines 14-19 of your specification) and therefore does not add anything inventive to the frozen product of claim 1.

Claim 30 is disclosed in the citation above.

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Claims 1-5, 9-14, 17-19, 22-30

Claim 22 does not involve an inventive step over the method of the citation. In the citation at page 21 lines 1-3 the preservative is mixed with the citric acid, to add the preservative to the sugar solution first and then add the citric acid would be a procedure that is technically equivalent to that of the citation. Claim 30 does not involve an inventive step because compressing the soft ice of the citation into a shape supported by a stick would not be inventive.

Claims 1-5, 9-14, 17-19, 23-29 do not involve an inventive step as they disclose the composition and method of the citation.

US 4790999

Claims 22, 23 and 30

The use of preservatives especially sodium benzoate is common in the art therefore claim 22 does not involve an inventive step. If a preservative were used in the process of the citation the step of claim 23 would be an equivalent method of addition as you have not disclosed any advantage. Claim 30 does not involve an inventive step because compressing the soft ice of the citation into a shape supported by a stick would not be inventive.